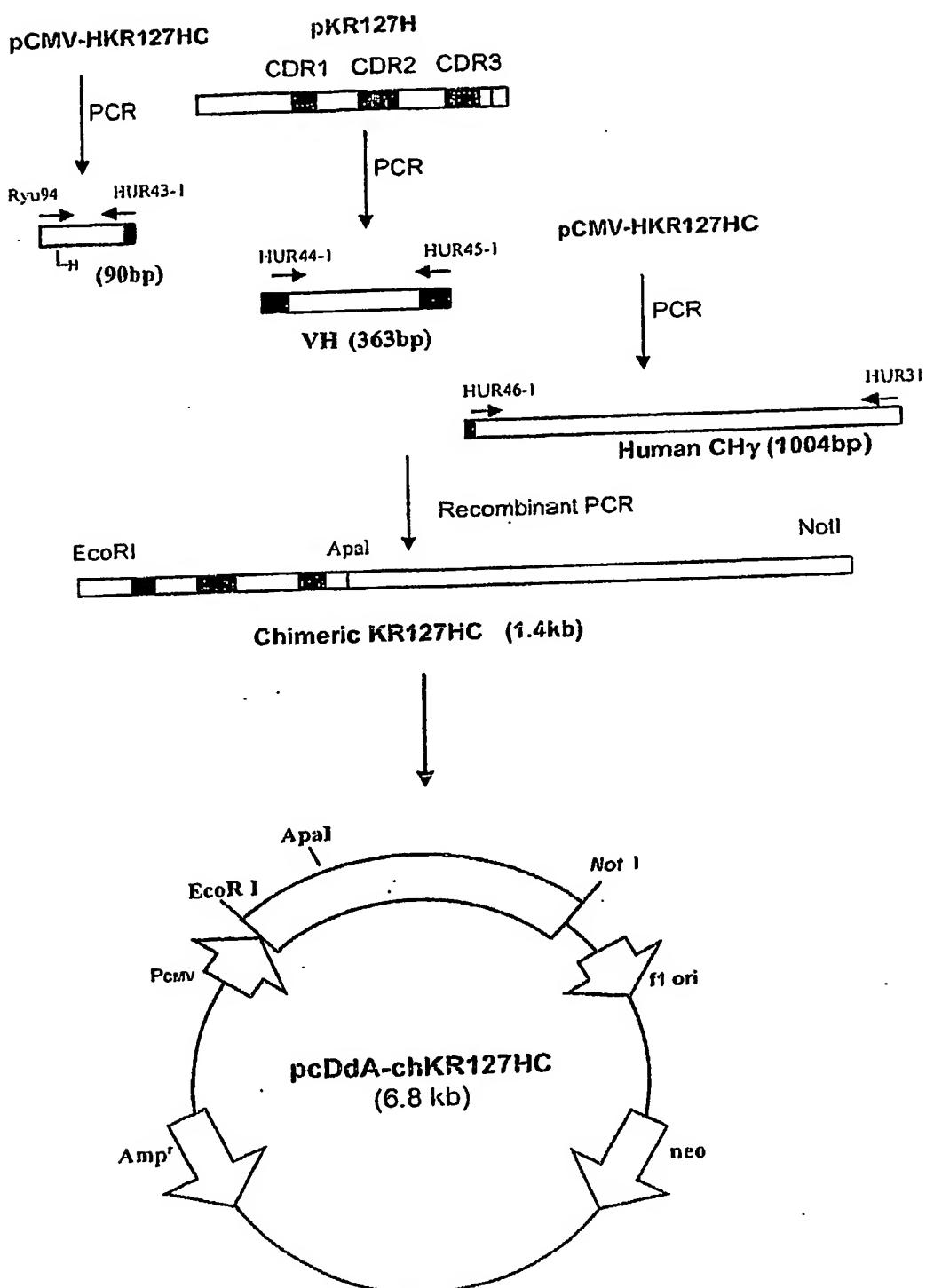


1/10

FIG. 1



2/10

FIG. 2A

| | |
|---------|--|
| | Q V Q L Q Q S G P E L V K P |
| KR127VH | CAG GTC CAG CTG CAG CAG TCT GGA CCT GAA CTG GTG AAG CCT 42 |
| | Q V Q L V Q S G A E V K K P |
| DP7 | CAG GTG CAG CTG GTG CAG TCT GGG GCT GAG GTG AAG AAG CCT |
| H2 I | CAG GTC CAG CTG GTG CAG TCT GGA GCT GAA GTG GTG AAG CCT |
| H2 V11 | CAG GTC CAG CTG GTG CAG TCT GGA GCT GAA GTG AAG AAG CCT |
| H2 I | - - - - V - - - A - V - - - |
| H2 V11 | - - - - V - - - A - V K - - |

| | |
|---------|--|
| | G A S V K I S C K A S G Y A |
| KR127VH | GGG GCC TCA GTG AAG ATT TCC TGC AAA GCT TCT GGC TAC GCA 84 |
| | G A S V K V S C K A S G Y T |
| DP7 | GGG GCC TCA GTG AAG GTT TCC TGC AAG GCA TCT GGA TAC ACC |
| H2 I | GGG GCC TCA GTG AAG GTT TCC TGC AAA GCT TCT GGC TAC GCA |
| H2 V11 | GGG GCC TCA GTG AAG GTT TCC TGC AAA GCT TCT GGC TAC ACC |
| H2 I | - - - - V - - - - - - - - - - |
| H2 V11 | - - - - V - - - - - - - - - - T |

| | |
|---------|---|
| | CDR1 |
| | F S <u>S S W M N</u> W V K Q R P G |
| KR127VH | TTC AGT AGT TCT TGG ATG AAC TGG GTG AAG CAG AGG CCT GGA 126 |
| | F T S Y Y M H W V R Q A P G |
| DP7 | TTC ACC AGC TAC TAT ATG CAC TGG GTG CGA CAG GCC CCT GGA |
| H2 I | TTC AGT AGT TCT TGG ATG AAC TGG GTG CGA CAG GCC CCT GGA |
| H2 V11 | TTC ACC AGT GCT TGG ATG AAC TGG GTG CGA CAG GCC CCT GGA |
| H2 I | - - - - - - - - R - A - - |
| H2 V11 | - T - A - - - - R - A - - |

| | |
|---------|---|
| | CDR2 |
| | Q G L E W I G <u>R I Y P G D G</u> |
| KR127VH | CAG GGT CTT GAG TGG ATT GGA CGG ATT TAT CCT GGA GAT GGA 168 |
| | Q G L E W M G I I N P S G G |
| DP7 | CAA GGG CTT GAG TGG ATG GGA ATA ATC AAC CCT AGT GGT GGT |
| H2 I | CAG GGT CTT GAG TGG ATT GGA CGG ATT TAT CCT GGA GAT GGA |
| H2 V11 | CAG GGT CTT GAG TGG ATG GGA CGG ATT TAT CCT AGT GGT GGA |
| H2 I | - - - - - - - - - - S G - |
| H2 V11 | - - - - - M - - - - - - - - - |

4/10

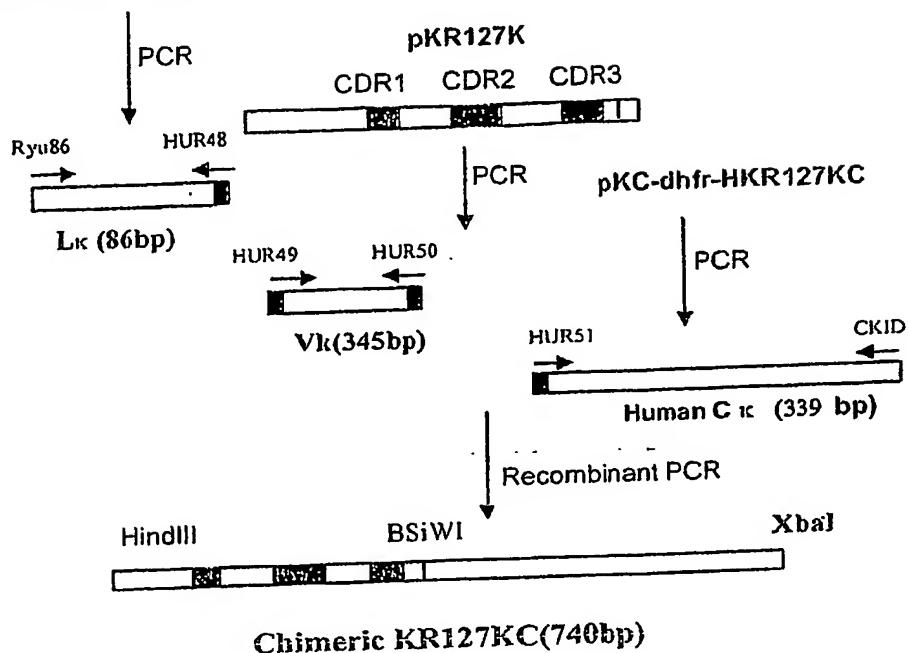
FIG. 2C

| | V | S | A |
|---------|-----|-----|-----|
| KR127VH | GTC | TCT | GCA |
| | V | S | S |
| HZI | GTC | TCT | TCA |
| HZVII | GTC | TCT | TCA |
| HZI | - | - | S |
| HZVII | - | - | S |

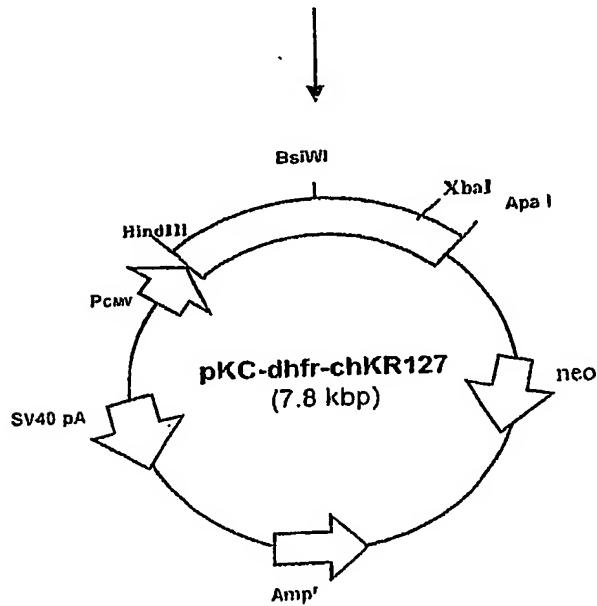
5/10

FIG. 3

pKC-dhfr-HKR127KC



Chimeric KR127KC(740bp)



6/10

FIG. 4A

| | |
|---------|--|
| | D I L M T Q T P L I L S V T |
| KR127VK | GAT ATC TTG ATG ACC CAA ACT CCA CTT ATT TTG TCG GTT ACC 42 |
| | D I V M T Q T P L S L S V T |
| DPK12 | GAT ATT GTG ATG ACC CAG ACT CCA CTC TCT CTG TCC GTC ACC |
| HZI | GAT ATC TTG ATG ACC CAA ACT CCA CTT TCT TTG TCG GTT ACC |
| HZIV | GAT ATC GTG ATG ACC CAA ACT CCA CTT TCT TTG TCG GTT ACC |
| HZI | - - - - - - - - - S - - - - |
| HZIV | - - V - - - - - S - - - - |

CDR1

| | |
|---------|--|
| | I G Q P A S I S C K S S Q S |
| KR127VK | ATT GGA CAA CCA GCC TCT ATC TCT TGC AAG TCA AGT CAG AGC 84 |
| | P G Q P A S I S C K S S Q S |
| DPK12 | CCT GGA CAG CCG GCC TCC ATC TCC TGC AAG TCT AGT CAG AGC |
| HZI | CCT GGA CAA CCA GCC TCT ATC TCT TGC AAG TCA AGT CAG AGC |
| HZIV | CCT GGA CAA CCA GCC TCT ATC TCT TGC AAG TCA AGT CAG AGC |
| HZI | P - - - - - - - - - - - - - - |
| HZIV | P - - - - - - - - - - - - - - |

CDR1

| | |
|---------|---|
| | <u>L L Y S N G K T Y L N W L L</u> |
| KR127VK | CTC TTA TAT AGT AAT GGA AAA ACC TAT TTG AAT TGG TTA TTA 126 |
| | L L H S D G K T Y L Y W Y L |
| DPK12 | CTC CTG CAT AGT GAT GGA AAG ACC TAT TTG TAT TGG TAC CTG |
| HZI | CTC TTA TAT AGT AAT GGA AAA ACC TAT TTG AAT TGG TTA TTA |
| HZIV | CTC TTA TAT AGT AAT GGA AAA ACC TAT TTG AAT TGG TTA TTA |
| HZI | - - - - - - - - - - - - - - |
| HZIV | - - - - - - - - - - - - - - |

CDR2

| | |
|---------|---|
| | Q R P G Q S P K R L I Y <u>L V</u> |
| KR127VK | CAG AGG CCA GGC CAG TCT CCA AAG CGC CTA ATC TAT CTG GTG 168 |
| | Q K P G Q P P Q L L I Y E V |
| DPK12 | CAG AAG CCA GGC CAG CCT CCA CAG CTC CTG ATC TAT GAA GTT |
| HZI | CAG AAG CCA GGC CAG TCT CCA AAG CGC CTA ATC TAT CTG GTG |
| HZIV | CAG AAG CCA GGC CAG CCT CCA CAG CGC CTA ATC TAT CTG GTG |
| HZI | - K - - - - - - - - - - - - - - |
| HZIV | - K - - - P - Q - - - - - - - - |

7/10

FIG. 4B

CDR2

| | S | K | L | D | S | G | V | P | D | R | F | T | G | S |
|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KR127VK | T | C | T | G | A | C | T | G | T | C | C | G | A | G |
| DPK12 | T | C | C | A | A | C | G | G | T | T | C | A | G | C |
| HZ1 | T | C | T | G | A | C | T | G | G | T | C | A | G | T |
| HZ1V | T | C | A | A | T | C | G | G | T | C | G | A | G | T |
| HZ1 | - | - | - | - | - | - | - | - | - | - | - | S | - | - |
| HZ1V | - | N | R | - | - | - | - | - | - | - | - | S | - | - |

| | G | S | G | T | D | F | T | L | K | J | I | R | V | E |
|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KR127VK | G | G | A | T | C | G | A | C | A | T | A | T | G | G |
| DPK12 | G | G | A | G | G | A | G | T | T | C | A | G | C | G |
| HZ1 | G | G | A | C | A | G | T | T | A | C | A | G | A | G |
| HZ1V | G | G | A | C | A | G | T | T | A | C | A | G | A | G |
| HZ1 | - | - | - | - | - | - | - | - | - | - | - | S | - | - |
| HZ1V | - | - | - | - | - | - | - | - | - | - | - | S | - | - |

CDR3

| | A | E | D | L | G | V | Y | Y | C | V | Q | G | T | H |
|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KR127VK | G | C | T | G | A | G | T | T | G | T | T | A | C | A |
| DPK12 | G | C | G | A | G | T | G | G | T | T | A | T | A | C |
| HZ1 | G | C | G | A | G | T | G | G | T | T | A | G | T | G |
| HZ1V | G | C | G | A | G | T | G | G | T | T | A | G | T | G |
| HZ1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| HZ1V | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

CDR3

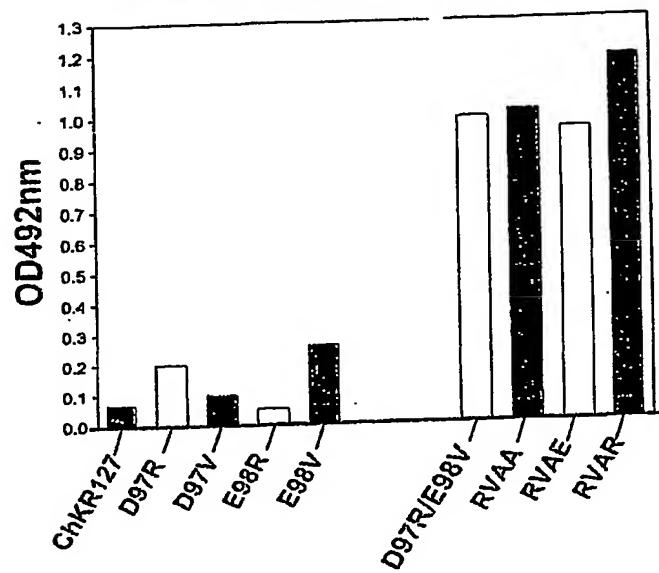
| | F | P | Q | T | F | G | G | G | T | K | L | E | I | K |
|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KR127VK | T | T | T | C | C | T | A | G | C | A | G | T | G | A |
| DPK12 | C | T | T | C | C | T | F | G | G | G | T | K | V | E |
| HZ1 | T | T | T | C | C | T | A | G | G | G | T | K | V | E |
| HZ1V | T | T | T | C | C | T | A | G | G | G | T | G | A | A |
| HZ1 | - | - | - | - | - | - | - | - | - | - | - | V | - | - |
| HZ1V | - | - | - | - | - | - | - | - | - | - | - | V | - | - |

(JK4)

8/10

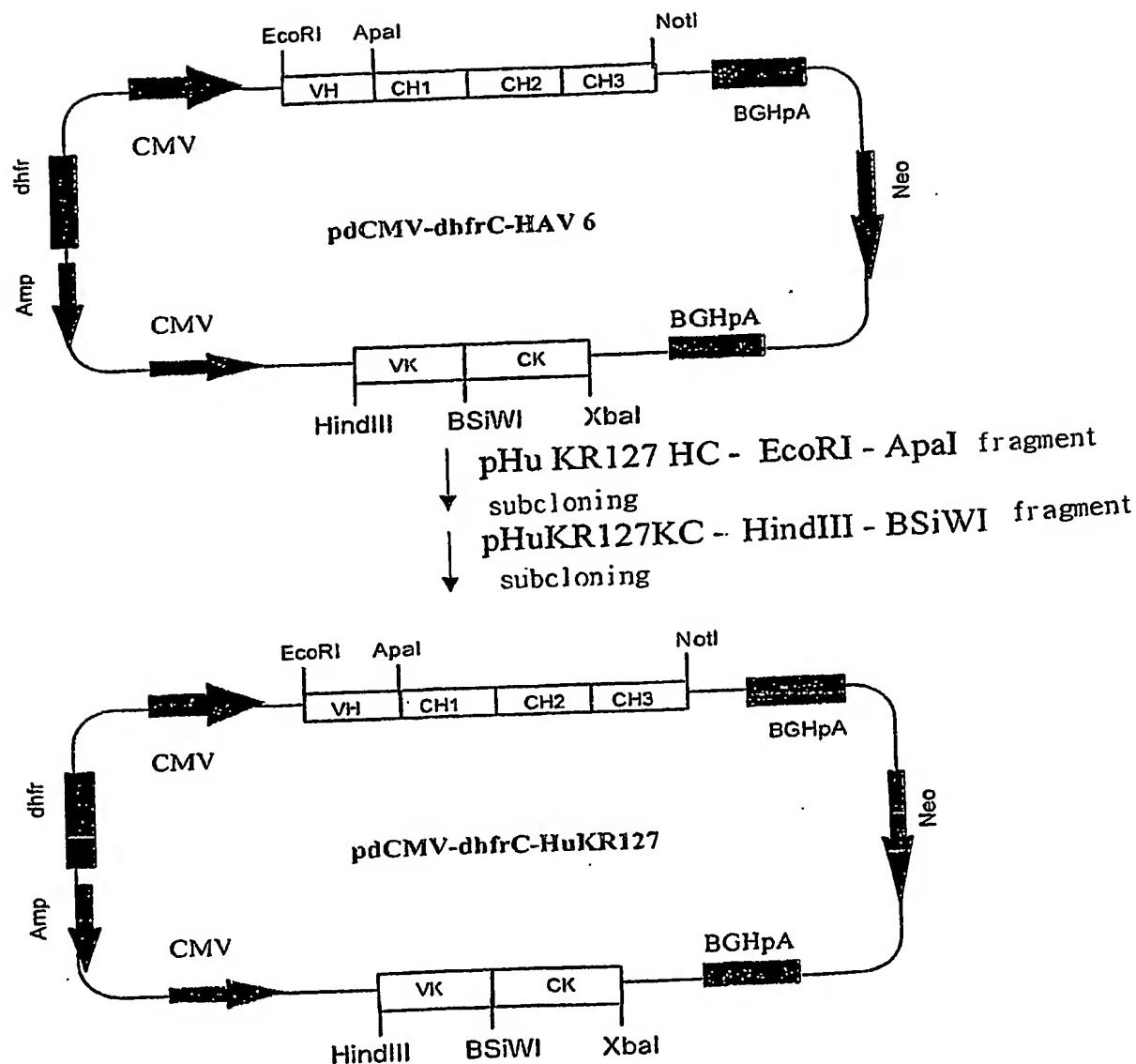
FIG. 5

Indirect ELISA of HCDR3 variants



9/10

FIG. 6



10/10

FIG. 7

